

WHAT IS CLAIMED IS:

- 1 1. The method for handling the switching of signals for audio  
2 broadcasts in AC-3 standard format to be transmitted as AES-3 signal bit streams  
3 comprises:  
4 determining a predetermined count at which each packet in the AES-3  
5 bit stream is to arrive, disabling a response to receipt of the packet to avoid  
6 outputting the data in the packet if it is received before said predetermined count has  
7 lapsed from receiving the start of a packet,  
8 detecting if a disruption occurs while packet is being received, and  
9 accepting the packet of AC-3 information for enabling output after a  
10 predetermined time period plus the predetermined count from which the last packet  
11 started, if a disruption has been detected.
- 1 2. The invention as defined in claim 1 wherein said count is a  
2 time count.
- 1 3. The invention as defined in claim 1 wherein said count is a  
2 word count.
- 1 4. The invention as defined in claim 1 wherein said last step  
2 comprises determining whether the under packet comes within 10 milliseconds after  
3 an AC-3 packet was predicted to have arrived, and accepting said packet as a trigger  
4 to provide a valid output in response to said detection.
- 1 5. The invention as defined in claim 4 and further comprising  
2 wherein if another packet comes within a time period greater than 10 milliseconds  
3 but less than the predetermined number of milliseconds between packets, and  
4 preventing output by refusing to accept the packet, received in said interval between  
5 N and X for enabling output.
- 1 6. A method for controlling the status of channel status bits in  
2 multiple data streams comprises:

3 establishing agreement between the channel status bit buried in an AC-  
4 3 packet and the channel status bit buried within the MPEG-2 PES header structure,  
5 and

6 regenerating the channel status bits of the AES-3 stream continuing  
7 in the IRD for output of AC-3 to feed an external AC-3 decoder so that the channel  
8 status bits comply with the bits in the AC-3 data stream which also agrees with the  
9 serial data stream between the IRD and the decoder.

1 7. The invention as defined in claim 6 wherein said establishing  
2 agreement comprises parsing the AC-3 bit stream, determining the channel bit status,  
3 setting the channel bit status in MPEG-2 PES header, and generating MPEG-2 PES  
4 header in an encoder.

1 8. The invention as defined in claim 7 wherein said establishing  
2 agreement comprises setting the AC-3 audio stream channel status bit to be on, and  
3 recalculating the CRC bit in response to changing the channel status bit in the AC-3  
4 audio stream.

1 9. The invention as defined in claim 8 wherein said setting  
2 comprises an operator manually setting said channel status bit.

1 10. The invention as defined in claim 8 which said setting  
2 comprises automatically setting said channel status bit.

1 11. The invention as defined in claim 6 wherein said channel status  
2 bit is a copyright status bit.

1 12. The invention as defined in claim 8 wherein said establishing  
2 agreement comprises setting the AC-3 audio stream channel bit to be off, and  
3 recalculating the CRC bit in response to changing the copyright bit status in the AC-3  
4 audio stream.

1 13. The invention as defined in claim 12 wherein said setting  
2 comprises an operator manually setting said copyright bit.

1 14. The invention as defined in claim 12 which said setting  
2 comprises automatically setting said copyright bit.

1 15. An uplink processor for transmitting AC-3 audio streams  
2 together with video transmissions, the uplink processor comprising:  
3 an encoder with switch logic input automatically sensing sensor audio  
4 signal formats and redirecting signals to an encoder adapted to process said second  
5 audio signal formats.

1 16. The invention as defined in claim 15 wherein said sensing  
2 comprises the sensing of compression in a serial digital interface router.

1 17. An apparatus for automatically checking cataloging and  
2 reporting errors in an AC-3 bit stream signal comprising:  
3 a monitor including a processor with a clock,  
4 a computer interface for converting AES signal to computer readable  
5 language and,  
6 time code labeler for labeling each packet with a time stamp with said  
7 processor controlling said computer interface to read data into a buffer, sending a  
8 message to the processor's operating system in response to a detector detecting errors  
9 in said data and sending a message in response to discrepancies with said labeling.

1 18. The invention as defined in claim 17 wherein said detector  
2 comprises a state processor finding AC-3 packets, locking into each packet, and  
3 detecting any discontinuity in the packets or loss of packets from a signal.

1 19. The invention as defined in claim 17 wherein said detector is  
2 operative checking timing of on-air faults simultaneously with on-air broadcasting of  
3 said AC-3 bit stream signal.

1                    20.    The invention as defined in claim 19 wherein said detector is  
2    operative while preparing a tape for broadcast.

1                    21.    A device for playing AC-3 signal out in sync with a video  
2    signal comprising  
3                    a monitor including a processor with a time clock, wherein a sound  
4    card has an input for a) receiving a house reference AES clock and b) locking audio  
5    output to the frequency of video production of a house master generator by said audio  
6    card receiving AES clock input to simultaneously start audio and AC-3 data stream.

1                    22.    The invention as defined in claim 21 and further comprising  
2    a time code reader for automatic start of playback of said video and audio signals in  
3    sync.

1                    23.    The invention as defined in claim 21 wherein an editor's  
2    contact closure is an input to said processor to start playback.

1                    24.    The invention as defined in claim 21 wherein said monitor  
2    determines a size of the packet from a start of the packet, and generates an IEC 958  
3    header based on said determined size,

1                    25.    The invention as defined in claim 24 wherein said device places  
2    the header and AC-3 packet in buffer, supplements the unfilled spaces in the buffer  
3    with a series of bits, and  
4                    wherein said device outputs data from the AES-3 card as PCM audio  
5    signal.

1                    26.    The invention as described in claim 21 wherein the AC-3 data  
2    is stored as a data file.

1                    27.    The invention as defined in claim 26 wherein the data file is  
2    stored on a CD-Rom.